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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,601	03/01/2002	Andreas Weickenmeier	03850/017001	7924

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HOUSTON, TX 77010

EXAMINER

DINH, JACK

ART UNIT	PAPER NUMBER
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2873

DATE MAILED: 08/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/087,601

Applicant(s)

WEICKENMEIER, ANDREAS

Examiner

Jack Dinh

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 13-17 is/are rejected.
- 7) ☒ Claim(s) 7-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: **DETAILED ACTION**.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 6, the phrase “one diffraction plane” lacks sufficient antecedent basis. In addition, from the specification and figure 2 of the instant application, it is unclear where the aforementioned diffraction plane is located.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5 and 13-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakasuji et al. (U.S. Patent 5,973,333).

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(a) Regarding claim 1, Nakasuji et al. (figure 1) is interpreted as disclosing a lens arrangement for the particle-optical imaging of an object, to be imaged and positionable in an object area **M**, into an image area **W**, comprising

a first focusing lens device **15** for providing a field having a focusing effect on the imaging particles for imaging the object from the object area into an intermediate image area **17** (col. 6, lines 39-54),

a second focusing lens device **19** for providing a further field having a focusing effect on the imaging particles for imaging the object, which has been imaged into the intermediate image area, into the image area (col. 6, lines 39-54), and

a deflection lens device **18** for providing a field having a deflecting effect on the imaging particles in a region of the intermediate image area (col. 6, line 65 – col. 7, line 9).

(b) Regarding claims 2, 14 and 15, Nakasuji et al. is interpreted as further disclosing that the field of the first focusing lens device comprises an electric field which is substantially axially symmetric in respect of a central beam of a bundle of beams (col. 6, lines 47-49).

(c) Regarding claims 3, 16 and 17, Nakasuji et al. is interpreted as further disclosing that the field of the first and the second focusing lens device comprises electric dipole arrangement **16** and **20** which are axially spaced apart from one another in respect of a central beam of a bundle of beams of the imaging particles (col. 6, lines 47-49).

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(d) Regarding claim 4, Nakasuji et al. is interpreted as further disclosing that the field of deflection lens device comprises a magnetic field which is substantially mirror-symmetric in respect of a plane jointly extending with a central beam of a bundle of beams of the imaging particles (col. 6, line 65 – col. 7, line 9).

(e) Regarding claim 5, Nakasuji et al. is interpreted as further disclosing that the field of deflection lens device comprises a magnetic field which is oriented transverse to a central beam of a bundle of beams of the imaging particles (col. 6, line 65 – col. 7, line 9).

(f) Regarding claim 13, Nakasuji et al. (figure 1) is interpreted as disclosing a method for device manufacture, comprising a photolithographic step, wherein the photolithographic step comprises the transfer of a pattern defined by a mask **M** to a particle-sensitive substrate **W** using a lens arrangement, the lens arrangement comprising:

a first focusing lens device **15** for providing a field having a focusing effect on the imaging particles for imaging the object from the object area into an intermediate image area **17** (col. 6, lines 39-54),

a second focusing lens device **19** for providing a further field having a focusing effect on the imaging particles for imaging the object, which has been imaged into the intermediate image area, into the image area (col. 6, lines 39-54), and

a deflection lens device **18** for providing a field having a deflecting effect on the imaging particles in a region of the intermediate image area (col. 6, line 65 – col. 7, line 9), and

wherein the mask **M** is disposed in the object area and the substrate **W** is disposed in the image area (figure 1).

Allowable Subject Matter

3. Claims 7-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not show or fairly suggest the claimed invention of a lens arrangement and a method for device manufacture having the claimed structure and claimed limitations of the independent claims, in such a manner that a rejection under 35 USC 102 or 103 would be improper.

Regarding claims 7-12, prior art fails to disclose that the first driving means changes the field strength of the deflection lens device substantially proportionally dependent upon an external magnitude and the second driving means changes the field strength of the first focusing lens device and the second focusing lens device, respectively, substantially quadratically dependent upon the external magnitude. Therefore, the claimed invention is considered to be in condition for allowance as being novel and non-obvious over the prior art.

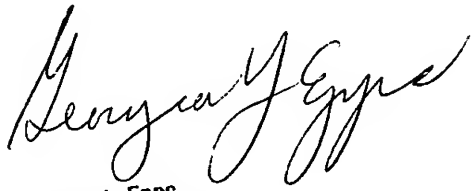
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Other Information/Remarks

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack Dinh whose telephone number is (703) 605-0744. The examiner can normally be reached on M-T (8:30 AM - 6:30 PM). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y Epps can be reached on (703) 308-4883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

August 11, 2003

Jack Dinh
Patent Examiner


Georgia Epps
Supervisory Patent Examiner
Technology Center 2800